National Park Service
U.S. Department of the Interior

Rocky Mountain National Park
Colorado

Moraine Park Stables – Hay Barn Addition Environmental Assessment /Assessment of Effect

Draft – January, 2005

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Environmental Assessment
Assessment of Effect

Moraine Park Stables – Hay Barn Addition
Rocky Mountain National Park • Colorado

SUMMARY

Hi Country Stables Corporation, the concessionaire responsible for the operation of the Moraine Park Stables, is requesting the addition of a hay barn to be located at the current livery. The proposed hay barn would be able to accommodate several month's worth and possibly up to an entire year's worth of hay storage for the horses at the livery. The current hay storage area is within the existing barn located on the site of the livery and is inefficient. Currently the concessionaire must replenish the feed supply at least four times during the operating/tourist season. Each of these replenishments requires about four 10-ton flatbed semi-truck deliveries. These deliveries can cause traffic congestion along Moraine Park Road during the height of the tourist season. If hay storage were relocated from the existing barn, this barn could be better utilized to service and store horse equipment, saddle horses, accommodate veterinary services, upgrade office and registration area, and improve the overall visitor experience.

The purpose for this Environmental Assessment is to examine alternatives for the addition of a new hay barn at the livery and to discuss the environmental, cultural, and socio-economic impacts of those alternatives. This new facility will serve the needs of the concessionaire, while sustaining the park's environmental integrity.

PUBLIC COMMENT

We welcome your comments on this Environmental Assessment. If we receive important new information, or if significant new issues are raised during the public comment period, we will revise the Environmental Assessment. **Your comments must be received in writing by close of business on???**. You can submit your comments to us in several ways:

- **By mail:** Superintendent, Rocky Mountain National Park, Estes Park, Colorado 80517
- **By fax:** (970) 586-1397
- **By e-mail:** romo_superintendent@nps.gov
- **By Express Delivery:** Superintendent, Rocky Mountain National Park, 1000 U.S. Highway 36, Estes Park, Colorado 80517
- **Hand deliver:** Rocky Mountain National Park Headquarters, 1000 Highway 36, Estes Park, Colorado or to the Kawuneeche Visitor Center, Rocky Mountain National Park, 16018 U.S. Highway 34, Grand Lake, Colorado 80447

You must include your name and mailing address with any comments, you provide. Our practice is to make comments, including names and addresses of respondents, available for public review during regular business hours. Also, we may be required to release your name and/or address if we receive a request for information that is covered by the Freedom of Information Act (5 U.S.C. 552, as amended). Individual respondents may request that we withhold their address from the record, which we will honor to the extent allowable by law. There may also be circumstances when we would withhold from the record a respondent's identity, as allowable by law. If you wish us to withhold your name and/or address, you must state this prominently at the beginning of your comment. We will make all submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, available for public inspection in their entirety.

Superintendent
Rocky Mountain National Park
Estes Park, Colorado 80517

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I. PURPOSE AND NEED

PURPOSE AND NEED

The purpose of this action is to analyze alternatives for the addition of a new hay barn at the Moraine Park Stables and to discuss the environmental, cultural, and socio-economic impacts of those alternatives. This new facility will serve the needs of the concessionaire, while sustaining the park's environmental integrity.

Objectives

The objectives of the proposed construction project are to:

Protect Park Natural Resources

- Build the new hay barn in a previously developed area of the park.

Provide for Employee and Visitor Safety and Enjoyment

- Provide for a safe employee and park visitor environment.
- Reduce the potential for vehicular accidents.

Improve the Efficiency of the Stable Operations

- Consolidate up to four month's worth of hay into one building.

Compatibility with the Landscape

- Ensure that the hay barn is in harmony with the landscape character and does not dominate the visual character of the site.
- Ensure that visual impacts are minimized.
- Ensure that the design is in conformance with park planning documents and complements the park design theme.

The use of horses for recreation, as well as transportation, is deeply rooted in western history. This heritage led to the present status of horse use in Rocky Mountain National Park. Lodges, ranches, and guest riding services were established in and around the Estes and Kawuneeche Valleys in the late 1800's (Buchholtz, 1983).

Hi Country Stables Corporation has a concession contract to operate two commercial liveries within Rocky Mountain National Park and operates the Glasier Creek Livery and Moraine Park Stables within the Park's boundary. The Moraine Park Stables has provided guided horseback rides to park visitors at its present site on a commercial basis since the early 1970s (Rex Walker) (figure 1). The site consists of a barn that was constructed in the mid 1950s (Anne Dubinsky), and two dormitory facilities, one built in 1984, and the other in 1990. There is also a comfort station located at the site. The concessionaire's area of responsibility includes the above buildings, a night corral, and employee parking and access. The site encompasses approximately 2.30 acres.

Moraine Park Stables provides recreational horseback rides within Rocky Mountain National Park. During the 2003 season the livery provided 6,185 rides within the park of the 29,180 total rides provided by all liveries that conduct rides on park property (Anne Dubinsky). The Moraine Park Stables' concession contract allows a maximum of 70 horses on park trails, and up to a maximum of 90 horses stabled at the Livery at any time (Anne Dubinsky).

The existing barn is being utilized to store hay for a one-month period, to saddle horses, service horse equipment, store blankets and equipment, horse veterinary/medical needs, as well as the office and registration area. The barn is inadequate to store enough hay for the four-month operating season, and it is inefficient for saddling and care of the horses. If hay storage could be provided elsewhere on the site, this building could be more effectively utilized and made safer for employees and visitors.

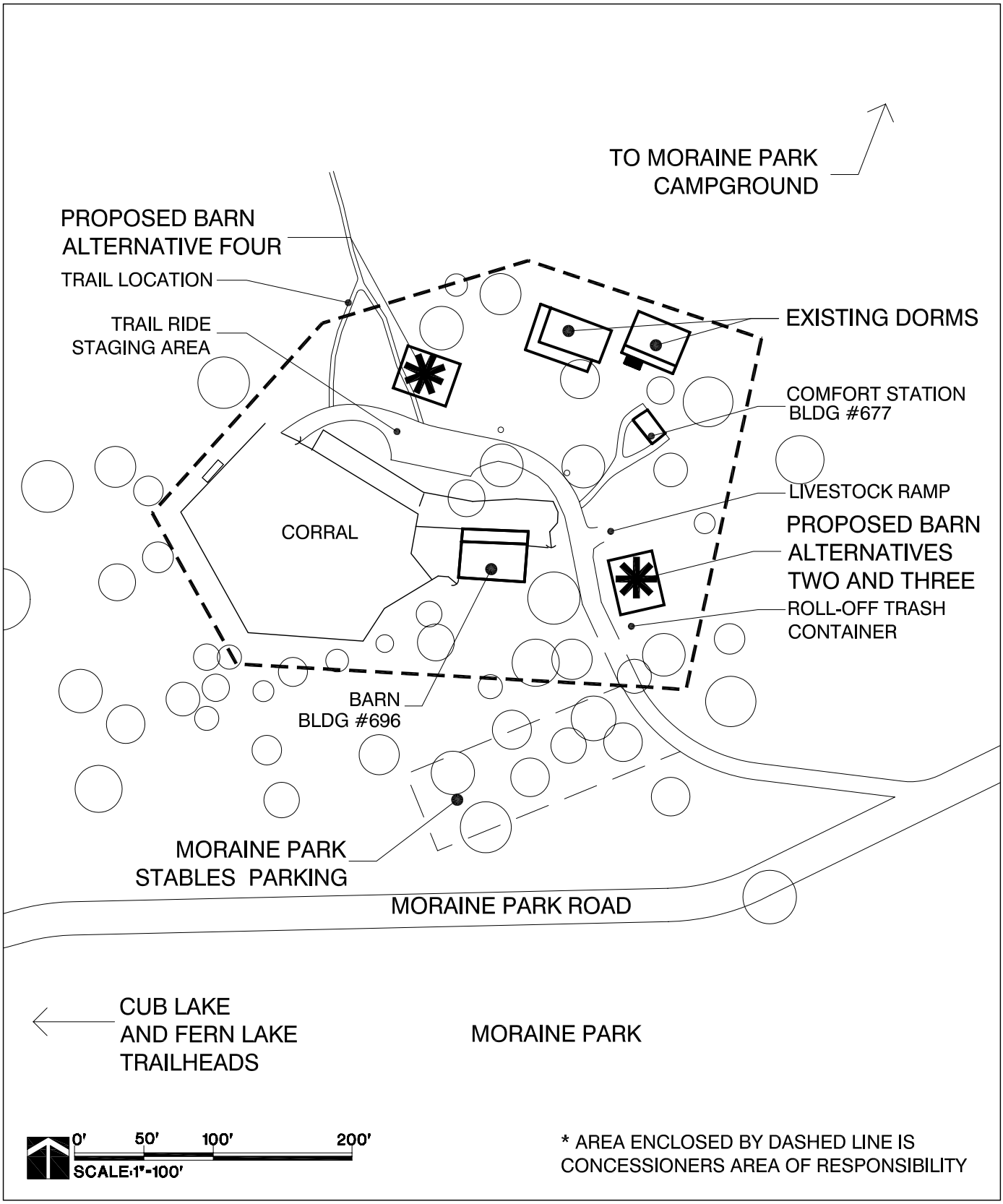
The current barn holds approximately 40 tons of feed. The concessionaire requires 150 tons of hay over the four-month operating season. This requires the concessionaire to replenish the supply at least three

times during the season. Each of those restocking times requires deliveries of at least four flat bed tractor-trailer rigs, utilizing a 33' long trailer. These deliveries occur during the height of the tourist season at the Park and can cause traffic congestion along Moraine Park Road, disrupt livery and park operations; as well as spook the horses creating an unsafe work environment. Deliveries outside business hours were investigated, however due to staff availability for unloading, carrier scheduling, and hauling distances, the deliveries must occur within business hours (7am to 7pm).

In addition there are several Health and Safety issues, associated with the current facility, to employees and visitors. One such risk is attributed to the internal layout of the current facility where employees are required to saddle horses in a confined space and injuries may ensue if a horse is spooked during care and saddling. Other risks are attributed to the deliveries themselves, when a delivery is made visitors must navigate around the tractor-trailer rig to access the comfort station and the trail ride staging area. The delivery and unloading of hay has a tendency to spook the horses, which may cause injury to unsuspecting employees or visitors. Livery employees are required to attend to deliveries when they arrive and are preoccupied with unloading the hay instead of assisting and ensuring visitor safety.

The need for this management action is to construct a structure that would accommodate enough hay storage for several months or possibly for the entire operating season. To store enough hay for an entire season, the size of the structure would need to be 30 feet by 40 feet by 14 feet in height. Hay could be stocked during the off-season when park visitation is lower and there are no horses at this facility. In addition the concessionaire would be able to purchase the entire quantity of hay from a single source, thereby ensuring the consistency and quality of hay for the entire operating season.

The NPS Concession Policy Act is specific concerning in-park concessions. "It is the policy of Congress that such development shall be limited to those that are necessary and appropriate for public use and enjoyment of the national park area in which they are located and that are consistent to the highest practicable degree with the preservation and conservation of the areas (Concession Policy Act, 1965)."



LOCATION OF PROPOSED ALTERNATIVES FIGURE 1

SCOPING

Internal scoping was conducted by the concessionaire, the concessionaire's hired consultant, and members of the Rocky Mountain National Park planning staff. This interdisciplinary process defined the purpose and need, identified potential actions to address the need, determined what the likely issues and impact topics would be, and identified the relationship, if any, of the proposed action to other planning efforts at Rocky Mountain National Park.

RELATIONSHIP OF THE PROPOSED ACTION TO PREVIOUS PLANNING EFFORTS

Commercial horse use has been a part of Rocky Mountain National Park's early history and has been addressed in a couple of National Park Service planning documents; Rocky Mountain National Park's *Final Master Plan* (January 1976), and the *Commercial Horse Use Management Plan and Environmental Assessment* (1994) are referenced in this Environmental Assessment. The proposed action has some inconsistencies with the overall intent of these two documents, however it is seen that "the experience of horseback riding as historic and desirable."

The 1976 Final Master Plan opinion of horse use "Both the 1972 environmental assessment of horse use, and the 1973 horse management plan for the park recognize the experience of horseback riding as historic and desirable." The Master Plan goes on to say that say: "horse use must be balanced with other uses to minimize impacts." It also states: "Elimination of livery stables within the park is recommended for 1979. Between now and the 1979 expiration of the current contract, the disadvantages as well as the merits of the two interior livery operations will be observed. The final decision for retention or elimination of such service will be made at that time." After the 1976 Master Plan was finalized the livery operations were observed and a decision was made to retain the interior liveries.

In 1994 the Commercial Horse Use Management Plan and Environmental Assessment for Rocky Mountain National Park was approved. The 1994 plan went through extensive public review and it was determined that "Horseback riding has been deemed as a necessary and appropriate use of the park." And "The services provided by commercial liveries offer a unique experience for recreationists, and for a segment of visitors who may otherwise be limited from seeing the park's backcountry." However, it does elaborate that "To maintain a policy of requiring all concessionaires equipment storage buildings and housing, to be provided outside the park boundary," and "… to permit no further expansion of concession operations requiring constructed facilities inside the park." It was determined with this plan that the Glacier Creek Livery and barn need to be relocated from a wetland and to move the dormitory facilities at Glacier Creek and Moraine Park Liveries outside the park, or to the Eagle Cliff NPS housing area. The 1994 plan allowed housing facilities on site at each livery of a maximum of four caretakers to conduct emergency services only. The dormitory structure with kitchen facilities at Moraine Park would be allowed to remain for caretaker housing. The Moraine Park barn and corral would remain in the present location.

The alternative selected in the 1994 Commercial Horse Use Management Plan wasn't conducive to livery operations for the concessionaire of the liveries, and a Civil Action ensued. In 1998 the concessionaire and the Park Service reached an agreement, with concessions. In order to operate the facilities, it is essential to the concessionaire that the employee housing and the feed are in close proximity to the horses due to the logistics of daily feedings. Therefore the concessionaire requested that the dormitories remain at the liveries. The Park Service coordinated the relocation of the facilities out of the wetland and a new facility was constructed at Glacier Creek that accommodates 16-employees as well as a hay barn (similar to the one proposed with this EA) that could store enough feed for the entire operating season.

The proposed hay barn at the Moraine Park Stable is consistent with the park's decision to allow a hay barn at the Glacier Creek Livery in the 1998 court agreement, but not necessarily consistent with either the 1976 Master Plan or the 1994 Commercial Horse Management Plan.

The NPS *Management Policies* (2001) describes Commercial Visitor Services Planning under the Concession Policies as "Any concession facilities improvement program, or any service authorized in a concession contract, will be in conformance with the appropriate approved plan(s) for the area being considered. A decision to authorize a park concession will be based on a determination that the facility or service:

- Is necessary and appropriate for the public use and enjoyment of the park in which it is located, and identified needs are not, nor can they be, met outside park boundaries;
- Will be provided in a manner that furthers the protection, conservation, and preservation of the environment, and park resources and values;
- Incorporates sustainable principles and practices in planning, design, siting, construction, utility systems, selection and recycling of building materials, and waste management; and
- Will enhance visitor use and enjoyment of the park without causing unacceptable impacts to park resources or values.

The number, location, and sizes of sites assigned for necessary facilities will be the minimum necessary for proper and satisfactory operation of the facilities, emphasizing compatibility of design; preservation of esthetic values, and natural and cultural resources; and integration of sustainable design concepts."

In addition the NPS *Management Policies* (2001) makes it the concessionaire's responsibility for managing all of their operations in a manner that minimizes risk and controls loss due to accident, illness, or injury.

IMPACT TOPICS

Issues and concerns affecting the proposed action were identified by specialists in the National Park Service, as well as by the concessionaire's consultant team. Impact topics are the resources of concern that could be affected by the range of alternatives. Specific impact topics were developed to ensure that alternatives were compared on the basis of the most relevant topics. The following impact topics were identified on the basis of federal laws, regulations, orders, and National Park Service *Management Policies, 2001*. A brief rationale for the selection of each impact topic is given below, as well as the rationale for dismissing specific topics from further consideration.

GEOLOGY, SOILS, AND VEGETATION

Improvements proposed to the Moraine Park Stables would have a potential impact on soil and vegetation in the area due to disturbance related to construction operations. Any proposed improvement will have a direct impact on the soil and vegetation at the location of the improvement and will create conditions conducive for invasive exotic plants.

VISUAL QUALITY

According to 2001 Management Policies, the National Park Service strives to understand, maintain, restore, and protect the inherent integrity of the natural resources, processes, systems, and values of the parks. Scenic views and visual resources are considered highly valued associated characteristics that the National Park Service should strive to protect.

Any improvements to the area would affect the visual quality of the area and would need to be evaluated to determine the extent of the impact to the visual quality. The area under consideration is currently occupied by several structures.

SOCIOECONOMIC IMPACTS

The addition of the hay storage building might have a short-term indirect impact on the economic resources of the gateway community of Estes Park. It is possible that a local contractor would be hired to build the new facility, and it is also possible that building materials would be purchased locally. In the long-term, the beneficial effects will probably be insignificant to the community.

VISITOR USE AND EXPERIENCE

According to 2001 Management Policies, the enjoyment of park resources and values by people is part of the fundamental purpose of all park units. The National Park Service is committed to providing appropriate, high quality opportunities for visitors to enjoy the parks, and will maintain within the parks an atmosphere that is open, inviting, and accessible to every segment of society. Further, the National Park Service will provide opportunities for forms of enjoyment that are uniquely suited and appropriate to the superlative natural and cultural resources found in the parks.

The proposed actions will have a direct impact on the visitor experience due to hay restocking during the height of the operating season. Therefore, because the general public would benefit from the reduced disruptions, the topic of visitor use and experience will be considered in the assessment.

IMPACT TOPICS DISMISSED FROM FURTHER CONSIDERATION

After internal scoping, issues and concerns were distilled into distinct impact topics to facilitate the analysis of environmental consequences, which allows for a standardized comparison between alternatives based on the most relevant information. The impact topics were identified on the basis of federal laws, regulations, and orders; NPS *Management Policies* (2001); and NPS knowledge of limited or easily impacted resources. The rationale for dismissing specific topics from further consideration is given below.

PRIME AND UNIQUE FARMLANDS

In August 1980, the Council on Environmental Quality (CEQ) directed that federal agencies must assess the effects of their actions on farmland soils classified by the U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS) as prime or unique. Prime or unique farmland is defined as soil that particularly produces general crops such as common foods, forage, fiber, and oil seed; unique farmland produces specialty crops such as fruits, vegetables, and nuts. According to NRCS, none of the soils in the project area are classified as prime and unique farmlands. Therefore, the topic of prime and unique farmlands was dismissed as an impact topic in this document.

ENVIRONMENTAL JUSTICE

Executive Order 12898, "General Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," requires all federal agencies to incorporate environmental justice into their missions by identifying and addressing disproportionately high and adverse human health or environmental effects of their programs and policies on minorities and low-income populations and communities. The proposed action would not have disproportionate health or environmental effects on minorities or low-income populations or communities as defined in the Environmental Protection Agency's Environmental Justice Guidance (1998). Therefore, environmental justice was dismissed as an impact topic in this document.

AQUATIC, WETLAND AND RIPARIAN COMMUNITIES

South of Moraine Park Road lies the Big Thompson River and floodplain. This area has a significant amount of wetland habitat. This area is a wet meadow consisting of an undetermined number of small ponds usually associated with Beaver and outwash plains. Riparian plant communities in the area include vegetation such as sedges, willows, and birch. No wetland or riparian communities exist in the project area.

FLOODPLAINS

The National Park Service is responsible for ensuring structures are not built in 100 and 500 year floodplains whenever possible (Executive Order 11988, Floodplain Management). The present Moraine Park Stables and all four alternatives are located outside the 100 and 500-year floodplain of the Big Thompson River.

IMPACTS ON THREATENED AND ENDANGERED SPECIES

Appendix A is the list of endangered, threatened and rare species for Rocky Mountain National Park. These species are either known to occur in Rocky Mountain National Park at the present time or have been observed in the park in the past. Endangered, threatened and rare species must be protected if found within the proposed project site.

None of the threatened/endangered species in Appendix A are known to occur in the vicinity of the four alternative sites at the present time, but may possibly occur in the area but have not yet been confirmed. A rare plant survey will be conducted prior to construction. This has been added as a mitigation measure.

WILDLIFE VALUES AND HABITAT

Rocky Mountain National Park is rich in species diversity. This is especially true for birds, with over 250 documented species. Encompassing the three major life zones (montane, sub-alpine, and alpine) and plant communities ranging from willow carrs, ponderosa pine, lodgepole pine/spruce-fir forests and up to alpine tundra, the park offers a great variety of habitats to support this avian diversity.

Many Neotropical migrant birds that nest in the park rely on wetland and aspen habitat. Important Neotropical migrant birds occur near the present livery in the unimpacted wetland habitat adjacent to the Big Thompson River. Neotropical migrant birds such as the Wilson's warbler, solitary vireo, Lincoln's sparrow, and song sparrow nest in willow and box elder in the area. Some of the Neotropical migrant birds are showing a downward trend nationwide due to loss and fragmentation of their habitats. Other birds such as the mallard, spotted sandpiper and American dipper are commonly observed along the Big Thompson River. Mallards and ring-necked ducks nest in willow and sedges adjacent to the Big Thompson River. Common birds include the Gray jay, Ruby-crowned kinglet, Pine siskin, and Common raven.

The park is also rich in other wildlife. There are 66 species of mammals, 11 species of fish, and 5 species of amphibians. There is only one species of reptile known to occur within the park.

The four alternatives fall within the upper montane zone (7,800 feet to 9,500 feet in elevation), which is primary winter range for elk and deer. The moraine park meadow is a significant winter range for elk and deer. Other common mammals include beaver, chickaree, coyote, bobcat, porcupine, mountain lion, chipmunk, golden-mantled ground squirrel, and pine marten.

The proposed alternatives will have little to no impact on the wildlife of the park.

WILDERNESS

The Wilderness Act (1964), and the 1994 NPS-77 Natural Resources Management Guidelines provide guidance for wilderness management. The NPS-77 guidelines state that compromise of wilderness resources or character can occur only if those actions have localized short-term adverse impacts.

Rocky Mountain National Park currently operates under a land classification system that divides the lands into zones. These zones are: recommended wilderness (93%), designated wilderness (2%), administrative (1%), historic (2%), and roads, etc. (2%). Rocky Mountain National Park will take no action that will diminish the wilderness suitability of an area recommended for wilderness designation until the legislative process for wilderness designation has been completed.

The four alternatives are within an area that is currently developed and is not in or adjacent to recommended wilderness.

AIR QUALITY

The Clean Air Act (1977) recognizes the need to protect visibility and air quality in national parks. Rocky Mountain National Park is a mandatory Class I area. Recent research indicates that air pollution could be altering soils and native plant composition, which in turn may be enhancing certain annual exotic plants (Stohlgren et.al., 1998). Visibility is impaired in the park about 90% of the time, mostly from outside sources. Air pollution comes from many sources including the Front Range of Colorado, and as far away as Mexico, Texas, and Los Angeles, California.

Construction activities related to the hay barn construction such as hauling material and operating equipment could result in temporary increases of vehicle exhaust, emissions, and fugitive dust in the general project area. Any exhaust, emissions, and fugitive dust generated from construction activities will be temporary and localized. Overall, the project could result in a negligible degradation of local air quality, and such effects would be temporary, lasting only as long as construction. Therefore, air quality was dismissed as an impact topic.

NATURAL QUIET, SOUND AND NIGHT SKY

Rocky Mountain National Park contains various tangible natural and cultural features, such as animals, plants, waters, geologic features, and historic buildings. The park also contains intangible qualities such as natural quiet, solitude, space, natural light and scenery. Night sky free from light pollution is considered an important resource. Both tangible and intangible resources are equally important in management decisions affecting park resources. About 95 percent of the park is recommended or designated wilderness, where natural quiet, solitude, space and natural light are considered important resources. The National Park Service will strive to preserve the natural quiet and the natural sound associated with the physical and biological resources of the park. Activities causing excessive or unnecessary unnatural sounds in and adjacent to parks will be monitored, and action will be taken to prevent or minimize unnatural sounds that adversely affect park resource or values or visitors' enjoyment of them (NPS 77, 1994).

Construction of the hay storage facility will occur during the off-season to minimize impact to visitors and to livery operations. During construction of the hay storage facility, human-caused sounds will likely increase due to construction activities, equipment, vehicular traffic, and construction crews. Any sounds generated with construction would be temporary, lasting only as long as the construction activity is generating the sounds. Because protection of a natural ambient soundscape and/or opportunity for visitors to experience natural sound environments is an objective of the Rocky Mountain National Park, and any construction-related sounds would have short-term and negligible impacts, natural quiet and sound was dismissed as an impact topic. Also, since the facility will not increase the current light levels to the project area there will be no additional impact to the night sky and this too has been dismissed as an impact topic.

CULTURAL RESOURCES (Pending Archeological Clearance from RMNP Park Archeologist)

Construction of the new hay barn facility could affect unknown cultural or historic resources. Surveys for cultural resources have taken place in Rocky Mountain National Park in the past. If previously unknown cultural resources were located during construction, the project would be halted in the discovery area until cultural resource staff could determine the significance of the finding.

Impacts on Historic Resources
Historic resources relate to mining, ranching, logging, tourist activities, and to facilities associated with the development of the park.

Abner Sprague first settled in Moraine Park in the 1880's. He ranched the area until 1904 when he sold the ranch to J.D. Stead (Butler, 1999). The Moraine Park area was home to several resorts that included recreational facilities such as a golf course and tennis court. The tennis court was located where the current barn is situated at the Moraine Park Stables. The excavation for the tennis courts was stockpiled at the location of the proposed alternative (Rex Walker). One such resort was the Brinwood Ranch-Hotel that was established in 1911, but by 1960 the Brinwood Ranch-Hotel had been purchased by the Park and removed (Buchholtz 1983). Alternatives two and three are proposed to be located on the edge of where this hotel once stood.

All of the facilities associated with Stead's Ranch, Sprague Lodge resort, Fern Lake Lodge, and ranching operations that occurred in the area of the Alternatives were removed from this part of Moraine Park.

No historic resources will be impacted by any of the Alternatives.

Impacts on Prehistoric Resources
If any unknown prehistoric resources are found during the construction of the new hay barn, protection of the cultural resource will follow proper protocol and consultation with the State Historic Preservation Office and the Advisory Council on Historic Preservation.

II. ALTERNATIVES CONSIDERED

ALTERNATIVE 1 – NO-ACTION ALTERNATIVE

This alternative would leave the hay storage (approximately one month of feed) at its present location (figure 1). The location is within the existing barn to the east of the night corral and north of the parking area along Moraine Park Road. If the hay storage remains in this location the concessionaire is adversely impacted financially and logistically. The current setup requires more frequent hay purchases and deliveries, and support staff to be available for unloading. The portion of the building being used for hay could be utilized more appropriately. Rocky Mountain National Park is also potentially affected due to traffic impacts during hay delivery.

ALTERNATIVE 2 – EAST SIDE FULL SIZE HAY BARN (Preferred Alternative)

This alternative is the proposed action by Hi Country Stables, Inc. In this alternative the concessionaire would construct a 30 by 40 feet and 14 feet high building about 60 feet to the east of the existing barn (figure 1). This site is between the current roll-off dumpster location and a wooden livestock loading ramp. There are small clusters of ponderosa pine to the south of the site, but the actual proposed location is composed of grasses. Locating the hay facility in this location will not impact any wetland and is more than 275 feet from the nearest wetland habitat. This alternative will provide adequate hay storage for the Moraine Park Stables for the duration of the operating season. Providing this amount of hay would eliminate any hay deliveries during the operating season and therefore reduce disruption to the facility and visitors.

With the addition of the new hay barn the existing barn can be renovated to allow for appropriately sized saddling and care facilities, an expanded office and reception area, and additional equipment storage.

About 1,200 square feet of habitat will be permanently impacted by the proposed alternative. This area is composed of grassland habitat. The proposed building site is in an area of glacial till that has little erosion potential. The site is adjacent to the current access drive for deliveries and employee parking to the facility and is in an area that has previously been disturbed.

There are no known threatened/endangered species in the area.

The site is out of the Big Thompson River 100 and 500-year floodplain.

This alternative is the concessionaire's preferred alternative and is the proposed undertaking for §106 compliance.

ALTERNATIVE 3 – EAST SIDE HALF SIZE HAY BARN

This alternative is similar to alternative two (figure 1), with the exception that the new building would be half the size of the alternative two proposal (15 by 20 feet and 14 feet high). The building would be sited in the same location as alternative two. The limitation of this alternative is the concessionaire would still need to deliver hay during the operating season or continue to utilize the existing barn as a storage area in addition to the new facility.

ALTERNATIVE 4 – NORTH SIDE FULL SIZE HAY BARN

In this alternative the concessionaire would construct a 30 by 40 feet and 14 feet high building about 150 feet to the north of the existing night corral (figure 1). This site is in a clearing to the west of the western dormitory building. There are small clusters of ponderosa pine to the east and west of the site, but the actual proposed location is composed of grasses. Locating the hay facility in this location will not impact

any wetland and is more than 450 feet from the nearest wetland habitat. This alternative will provide adequate hay storage for the Moraine Park Stables for the duration of the operating season. Providing this amount of feed would eliminate any hay deliveries during the operating season and therefore reduce disruption to the facility and visitors.

This alternative will impact more habitat than alternatives two and three due to the necessity to construct a turn around for the delivery truck to access the site. This alternative would be very disruptive to livery operations if a delivery were required during the operating season due to the direct conflict with the staging area and current trailheads.

This area is composed of grassland habitat. The proposed building site is in an area of glacial till with large boulder outcrops that has little erosion potential. The site is adjacent to the current trail ride staging area and access drive for employee parking to the facility. There are two converging trails that occur in this area and would need to be relocated with this alternative.

The location for this alternative is within the view shed of the top of Steep Mountain and parts of the South Lateral Moraine, as well as the hiking trail through Moraine Park and parts of the beginning of the Cub Lake Trail and would be visible to park visitors.

There are no known threatened/endangered species in the area.

The site is out of the 100 and 500-year floodplain.

ENVIRONMENTALLY PREFERRED ALTERNATIVE

The Council on Environmental Quality defines the environmentally preferred alternative as "…the alternative that will promote the national environmental policy as expressed in the National Environmental Policy Act's §101." Section 101 of the National Environmental Policy Act states that "… it is the continuing responsibility of the Federal Government to …

(1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;

(2) assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings;

(3) attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;

(4) preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity, and variety of individual choice;

(5) achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and

(6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources."

The National Park Service goals are to implement the alternative that continues to provide a quality commercial service to park visitors with the least environmental impact to park resources. The best alternative will minimize impacts to the natural resources of the area, by using the most economical means with the least possible hazard to people, property and the environment. Given the park's mandate to protect natural resources and provide for the benefit and enjoyment of the people of the United States, the alternative chosen should be the most sensitive towards protection of natural resources, and have the greatest long-term beneficial effect on these resources and park visitors.

Alternative One would provide for continued use of the current barn as a hay storage facility. Under this alternative, park resources would continue to be protected because it would not create additional resource impacts. However this alternative does not fully meet policies 2, 3, or 5 due to the continued risk to health and safety of employees and visitors of the facility.

Alternative Two would more fully meet policies 2, 3, and 5 by removing the hay storage from the current barn and allowing it to be utilized to enhance the visitor experience and create a safer work environment for employees and visitors.

Alternative Three would also meet policies 2, 3, and 5 by reducing the hay storage in the current barn to half and constructing a hay storage facility that would accommodate 2 months supply. This alternative doesn't fully meet policies 2, 3, and 5 because the current barn would not be able to be renovated to the fullest extent feasible and therefore would remain somewhat unsafe for the employee and diminish visitor experience.

Alternative Four would more fully meet policies 2, 3, and 5 by removing the hay storage from the current barn and allowing it to be utilized to enhance the visitor experience and create a safer work environment for employees and visitors. This alternative however, falls short of policy 6 by locating the new facility in an area that is not easily accessible and would require additional site improvements.

MITIGATING MEASURES

Each of the alternatives would at a minimum incorporate the following mitigating measures during and after construction of the facility.

Construction zones would be identified and fenced with construction tape, snow fencing, or some similar material prior to any construction activity. The fencing would define the construction zone and confine activity to the minimum area required for construction. All protection measures would be clearly stated in the construction specifications and workers would be instructed to avoid conducting activities beyond the construction zone as defined by the construction zone fencing.

Temporary impacts associated with the hay barn construction would occur, such as soil and vegetation disturbance and the possibility of soil erosion. In an effort to avoid introduction of exotic plant species, no hay bales would be used. Hay often contains seed of undesirable or harmful alien plant species. Therefore, on a case-by-case basis the following materials may be used for any erosion control dams that may be necessary: rice straw, straws determined by NPS to be weed-free (e.g., Coors barley straw or Arizona winter wheat straw), cereal grain straw that has been fumigated to kill weed seed, and wood excelsior bales. Standard erosion control measures such as silt fences and/or sand bags would also be used to minimize any potential soil erosion.

For ditches or excavation, topsoil will be separated from the rest of any sub-soil. Topsoil refers to the uppermost soil horizon, and the natural humus bearing soils, duff, and vegetable matter. Topsoil shall be stored in piles no higher than three feet and three feet wide. A large pile of topsoil acts as a compost heap and destroys viable seed and microrizal fungus. The depth of topsoil is about six inches. The soil if possible will be placed in a disturbed area, which minimizes the impact to adjacent vegetation. If the topsoil is stored for several months or longer, it should be planted in a cover crop of sterile wheatgrass. Once construction is complete the topsoil will be placed back on top. An important consideration is to restore the natural soil gradient where revegetation will occur. The sub-soil should be compacted as it is replaced, eliminating a hump or subsidence later. The topsoil will only be contoured, not compacted, because compacting will inhibit plant growth. All topsoil should be used if possible where revegetation will occur. Any sub-soil left will be removed from the area as soon as possible to minimize damage to any vegetation underneath or used in the corrals. Any large rocks, boulders not buried will be removed from the site as soon as possible.

Silt fencing fabric would be inspected weekly or after every major storm. Accumulated sediments would be removed when the fabric is estimated to be approximately 75% full. Silt removal would be accomplished in such a way as to avoid introduction into any wetlands or flowing water bodies.

Although soil side-cast during construction would be susceptible to some erosion, such erosion would be minimized by placing silt fencing around the excavated soil. Excavated soil may be used in the construction project; excess soil would be stored in approved areas.

Revegetation guidelines should follow goals and objectives for a Class II area. A description of a Class II area can be found in Appendix D. The NPS is not responsible to pay for any revegetation. Funding for plant development and planting will have to be paid by High Country Stables. The funds will go to the RMNP Division of Resource Management, who will do any revegetation. Adequate planning is needed to develop a seed and plant list and plant material.

Revegetation plantings would use native species from genetic stocks originating in the park. Revegetation efforts would be to reconstruct the natural spacing, abundance, and diversity of native plant species. All disturbed areas would be restored as nearly as possible to pre-construction conditions shortly after construction activities are completed. The principal goal is to avoid interfering with natural processes.

The contractor is required to use only certified weed seed free products.

Invasive exotic plants, such as cheatgrass, may become a problem once construction is completed. The Natural Resources Specialist will monitor the site for up to two years and determine if further mitigation work regarding invasive exotics is necessary. The concessionaire will be responsible for the cost of any mitigation work regarding invasive exotic plants.

In many areas soils and vegetation are already impacted to a degree by various human and natural activities. Construction would take advantage of these previously disturbed areas wherever possible. Soils within the project construction limits would be compacted and trampled by the presence of construction equipment and workers. Soils would be susceptible to erosion until revegetation takes place. Vegetation impacts and potential compaction and erosion of bare soils would be minimized by conserving topsoil in windrows. The use of conserved topsoil would help preserve micro-organisms and seeds of native plants. The topsoil would be respread in as near as original location as possible, and supplemented with scarification, mulching, seeding, and/or planting with species native to the immediate area. This would reduce construction scars and erosion.

Some petrochemicals from construction equipment could seep into the soil. To minimize this possibility, equipment would be checked frequently to identify and repair any leaks.

Should construction unearth previously undiscovered archeological resources, work would be stopped in the area of any discovery and the park would consult with the state historic preservation officer/tribal historic preservation officer and the Advisory Council on Historic Preservation, as necessary, according to §36 CFR 800.13, Post Review Discoveries. In the unlikely event that human remains are discovered during construction, provisions outlined in the Native American Graves Protection and Repatriation Act (1990) would be followed.

The Park Service would ensure that all contractors and subcontractors are informed of the penalties for illegally collecting artifacts or intentionally damaging archeological sites or historic properties. Contractors and subcontractors would also be instructed on procedures to follow in case previously unknown archeological resources are uncovered during construction. Equipment traffic would be minimized in the area of the site. Equipment and materials staging areas would also avoid known archeological resources.

Since the construction operations will be conducted during the off-season, there will be little impact to traffic on Moraine Park Road. The flow of vehicle traffic on the road would be maintained as much as possible during the construction period. There may be some periods when the nature of the construction work may require temporary road closures. All efforts would be made to reduce these as much as possible and to alert park staff as soon as possible if delays longer than normal are expected. Visitors would be informed of construction activities and associated delays. Traffic would be managed to ensure timely access to private residents and ranches along the road.

Contractors would coordinate with park staff to reduce disruption in normal park activities. Equipment would not be stored along the roadway overnight without prior approval of park staff. Construction workers and supervisors would be informed about the special sensitivity of park values, regulations, an appropriate housekeeping.

The concessionaire will bear the cost of the design, construction, and maintenance of the new hay barn. Design and construction has to meet National Park Service standards. Construction of the new hay barn will follow vegetation protection guidelines in the 1994 *Vegetation Restoration Plan* and in the park construction stipulations. Once the new hay barn is constructed the National Park Service and concessionaire will decide how to best utilize the existing barn.

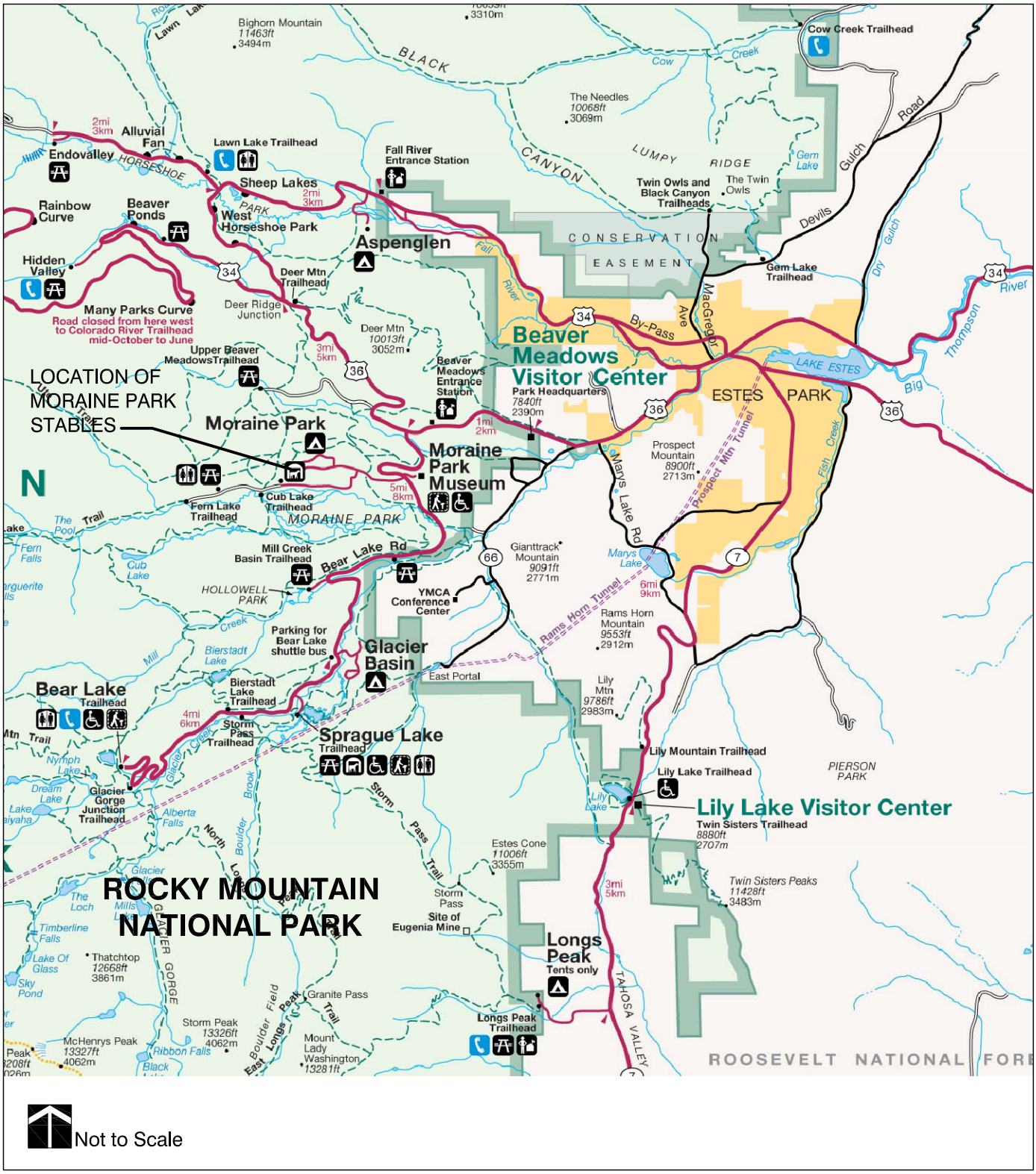
The new hay barn will be designed and constructed during the off-season to minimize impacts to natural quiet, sounds, and night sky. It will also be located in such a way to minimize visual impacts to the visitor and blend into the landscape as much as possible. In addition, the hay barn roof at the Moraine Park Stable will be asphalt shingles and not metal, in order to reduce visual impacts from sun reflecting off metal roofs.

Hay delivery will occur only on weekdays and not weekends to minimize impacts to visitors during busier days of the week, particularly in late summer/early fall when the elk rut is ongoing.

SUMMARIES

Table 1: Summary Comparison of Impacts

Impact Topic	Alternative 1 – No Action Alternative Current barn is sole hay storage facility.	Alternative 2 – East Side Full Size Barn (Proposal) Construct hay storage facility for 1 year of hay storage east of existing barn.	Alternative 3 – East Side Half Size Barn Construct hay storage facility for ½ year of hay storage east of existing barn.	Alternative 4 – North Side Full Size Barn Construct hay storage facility for 1 year of hay storage north of existing night corral.
Geology, Soils, & Vegetation	None	Minor impacts to glacial till and grassland of a previously disturbed site. Since the barn will be built into the hillside there will be minor impacts to geology, soils, and vegetation.	Same as Alternative Two	Moderate impact to glacial till with large boulder outcrops and grassland of a previously disturbed site.
Visual Quality	None	Negligible to minor adverse impacts, however the impacts would be minimized because of the building siting, shingled roof, architectural controls, as well as being associated with the other buildings at the stables.	Same as Alternative Two	Moderate adverse impacts due to the location being in an area that is visible from Moraine Park Road, the top of Steep Mountain, places along the South Lateral Moraine and places along the hiking trail through Moraine Park and possibly Cub Lake Trail.
Socioeconomic Impacts	Some adverse impact to concessionaire due to continued uncertainty of quality hay, safe work environment, and added cost of harvesting and purchasing hay in smaller quantities.	Local contractor could be hired to build the new facility, and possibly purchase building materials locally. However the long-term beneficial effects will probably be insignificant to the community. Construction cost to the concessionaire to build new facility. Reduced costs to the concessionaire by consolidating deliveries and purchasing hay in bulk. Greater consistency and quality of hay by purchasing from a single source for the entire season.	Same as Alternative Two	Same as Alternative Two, with the exception that the concessionaire would need to improve the access to the new barn and relocate the trail.
Visitor Use and Experience	Negligible adverse impacts to the visitor experience due to the periodic hay delivery to the stables and disruption to livery operations. Continued minor adverse impacts to traffic congestion along Moraine Park Road.	Reduction in frequency of hay deliveries required to restock this facility has minor to moderate beneficial impact to visitors. Sixteen trailer-rigs delivering hay in a few days will have minor adverse impact on traffic congestion. These deliveries would be scheduled during the off-season and therefore would be negligible.	Same as Alternative Two	Same as Alternative Two



PROJECT LOCATION
(Map courtesy Rocky Mountain National Park)

FIGURE 2

III. AFFECTED ENVIRONMENT

This section summarizes the natural and human environment that may be affected by the proposal and alternatives under consideration.

Rocky Mountain National Park encompasses 265,780 acres (107,558 hectares) and is located in the north central portion of Colorado. The park lies within Colorado's Larimer, Boulder, and Grand Counties. The towns of Allenspark, Glen Haven, Estes Park, Meeker Park, and Grand Lake are found along its borders. Land ownership around the park is a mixture of state, local, private, and federal land. About 62 percent of the park boundary borders National Forest land, with 70 percent of the forestlands managed as designated wilderness. The rest of the park boundary borders subdivisions, summer camps, and burgeoning town populations.

The park is easily accessible from the Denver metropolitan area, some 65 miles to the southeast. Interstates 25, 70, and 76, which converge in Denver, provide rapid access for visitors coming from all regions of the United States. Local highways that pass through the park include state highways 7, 34, and 36. The horse stables and proposed hay storage facility within the Moraine Park area of Rocky Mountain National Park is accessed via Moraine Park Road from Bear Lake Road off highway 36 (figure 2).

GEOLOGY, SOILS, AND VEGETATION

The park features an ecologically typical and exceptionally scenic portion of the Southern Rocky Mountains. The mountains were formed by a series of granitic batholiths intruded into Precambrian micashists and pegmatities. The Continental Divide passes roughly through the middle of the park dividing it into two distinct sides. Steep cliffs characterize the eastern slope with U-shaped valleys as altered by local plesitocene glaciation. The east slope sits in a slight rainshadow receiving about 15 inches of precipitation annually, and is subjected to high Chinook winds throughout the winter. In the west, the mountains fall away more gradually to the Kawuneeche Valley. The west slope receives about 20 inches of precipitation annually with deeper snows than the east slope in the winter. The geology associated with the Moraine Park Stables is primarily glacial till.

Specific soil information for the Moraine Park Stables area is the Rofork-Isolation complex. Rofork soil makes up primary component of the soil and is somewhat excessively drained with moderately rapid permeability, and no flooding or ponding hazards. Isolation soil is a lesser component of the soil composition and is associated with moraines; it too is somewhat excessively drained with moderately rapid permeability, and no flooding or ponding hazards. Rock outcrops are also associated with the Rofork-Isolation complex and generally occur on the shoulders of moraines and areas of exposed bedrock. The depth to bedrock is 10 to 20 inches. The erosion hazard is slight for the entire complex. (USDA and NRCS, 1999).

VISUAL QUALITY

The Moraine Park area has a very picturesque quality due to the open nature of the meadow and glacial valley floor surrounded by rocky peaks. There are many existing buildings within the valley, including the Moraine Park Museum. These buildings are generally around the perimeter of the valley floor and are located within the surrounding Ponderosa Pine forest. Moraine Park Road is an existing road that parallels the northern edge of the Big Thompson River floodplain. This road provides access to the Fern Lake and Cub Lake Trailheads, the Moraine Park Stables, the Moraine Park Campground, various picnic areas, private inholdings and seasonal housing for Park employees.

This valley has been restored to the current state through years of private in-holding acquisitions and removal of ranches, resorts, and recreational amenities. There are several trails that traverse the floodplain and lateral moraines within and adjacent to the valley. These trails and Moraine Drive offer the visitor vantage points of the valley and of the existing livery.

SOCIOECONOMIC IMPACTS

There are 13 commercial contracts at 16 locations that are authorized to offer horseback rides in Rocky Mountain National Park. A single concessionaire has a concessions contract to operate two liveries inside the park. The 16 commercial liveries account for 29,180 rides in 2003. Horseback riding generates a significant economic benefit. In 2003 the 29,180 visitors generated about $1,231,000 of gross revenue to the local economy just from the cost of the horseback rides. Other indirect economic benefits to the local economy may occur from purchases at tack stores, western clothing and accessory shops, cooperative stores, and feed stores.

VISITOR USE AND EXPERIENCE

Rocky Mountain National Park receives over three million visitors per year. The months of June, July, August, and September are the peak months. The typical park visitor stays less than a day but is within the vicinity of the Park for an average of four days. The park visitors are from around the country and the world. Many visitors however are Colorado residents.

Rocky Mountain NP				
Month	**Year**	**Recreation Visits**	**Non-Recreation Visits**	**Total Visits**
January	2003	61,472	31,849	93,321
February	2003	48,224	6,653	54,877
March	2003	63,999	7,614	71,613
April	2003	69,226	3,246	72,472
May	2003	198,771	18,581	217,352
June	2003	457,861	17,137	474,998
July	2003	678,086	17,374	695,460
August	2003	626,473	24,696	651,169
September	2003	465,941	17,626	483,567
October	2003	262,699	15,161	277,860
November	2003	69,681	9,622	79,303
December	2003	64,823	12,630	77,453
Totals:		**3,067,256**	**182,189**	**3,249,445**

(Data referenced from the NPS online Visitation Database for Rocky Mountain National Park by month for 2003).

The Moraine Park Stables is in operation from May though September. In 2003, the Moraine Park Stables provided 6,185 horseback rides (Anne Dubinsky). In 2004, the stables provided a total of 6,252 horseback rides (John Hannon).

IV. ENVIRONMENTAL CONSEQUENCES

INTRODUCTION AND METHODOLOGY

This section contains an evaluation of the direct and indirect environmental impacts of three action alternatives and the no action alternative. The analysis assumes that the mitigation identified in the Mitigating Measures section of this environmental assessment would be implemented under any of the action alternatives.

Topics analyzed in this chapter include Geology, Soils, and Vegetation, Visual Quality, Socioeconomic Impacts, and Visitor Use and Experience. Direct, indirect, and cumulative effects, as well as impairment are analyzed for each resource topic. Potential impacts are described in terms of type, context, duration, and intensity. General definitions are defined as follows:

- ***Type*** describes the classification of the impact as either beneficial or adverse, direct or indirect:
  Beneficial: A positive change in the condition or appearance of the resource or a change that moves the resource toward a desired condition.
  Adverse: A change that moves the resource away from a desired condition or detracts from its appearance or condition.
  Direct: An effect that is caused by an action and occurs in the same time and place.
  Indirect: An effect that is caused by an action but is later in time or farther removed in distance, but is still reasonably foreseeable.

- ***Context*** describes the area or location in which the impact will occur. Are the effects site-specific, local, regional, or even broader?

- ***Duration*** describes the length of time an effect will occur, either short-term or long-term:
  Short-term impacts generally last only during construction, and the resources resume their preconstruction conditions following construction.
  Long-term impacts last beyond the construction period, and the resources may not resume their preconstruction conditions for a longer period of time following construction.

- ***Intensity*** describes the degree, level, or strength of an impact. For this analysis, intensity has been categorized into no impact, negligible, minor, moderate, major, and impairment. The following thresholds are used to determine the change in intensity:
  No impact - There is no discernable impact.
  Negligible - The impact is at the lowest level of detection and causes very little or no physical disturbance when compared to current conditions.
  Minor - The impact is slight, but detectable, with few perceptible effects of physical disturbance.
  Moderate - The impact is readily apparent and has measurable effects of physical disturbance.
  Major - the impact is readily apparent in several areas and has severe effects of physical disturbance.
  Impairment - A major adverse impact to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the enabling legislation or proclamation of RMNP; (2) key to the natural or cultural integrity of the park; or (3) identified as a goal in the park's general management plan or other relevant NPS planning documents.

Cumulative Effects: The Council on Environmental Quality (CEQ) regulations, which implement the National Environmental Policy Act of 1969 (42 USC 4321 et seq.), require assessment of cumulative impacts in the decision-making process for federal projects. Cumulative impacts are defined as "the impact on the environment which results from the incremental impact of the action when added to other

past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions" (40 CFR 1508.7). Cumulative impacts are considered for all alternatives. The cumulative impacts relate primarily to the past improvements to the Moraine Park Stables including the addition of the two existing dormitory buildings, the existing barn, and the existing restroom building as well as fencing for the corrals, roll-off dumpster, and fuel tank. No reasonably foreseeable future development is anticipated for the Moraine Park Stables, but the Park Service does anticipate improving the parking area south of the livery by adding parking spaces to reduce congestion on Moraine Park Road.

ALTERNATIVE 1 – NO-ACTION ALTERNATIVE

GEOLOGY, SOILS, AND VEGETATION

No geology, soils or vegetation would be removed or disturbed to preserve the status quo.

VISUAL QUALITY

No additional impacts to the visual quality of the facility and Moraine Park area would be incurred.

SOCIOECONOMIC IMPACTS

This alternative would not directly affect local community resources.

The concessionaire would continue to be moderately adversely impacted by the reduced capacity to store hay at this facility. In addition the quality of hay is reduced because of the inability to harvest and deliver hay at the appropriate time of the season. There is the continued inability for the concessionaire to be able to purchase and stock hay in greater quantities, and the continued restocking of hay supplies during the season. The concessionaire acquires hay when there is a demand at the stable. This occurs at least three times per season. At each of these times the hay is cut and delivered to the current barn, where it is then fed to the horses almost immediately. The result of this uncured hay is an ill effect on the horses. Ideally the feed is allowed to cure over a period of time when it is fit to feed to the horses. By constructing a facility that can accommodate an entire season worth of hay, it is stocked at the end of the operating season and allowed the entire off-season to cure.

VISITOR USE AND EXPERIENCE

This alternative would perpetuate an unsafe work and visitor environment because of the continued deliveries during the height of the operating season. In addition, the existing barn has limited space for employees to prepare the horses for trail rides. The current registration desk/office is located within the barn, guests are required to register on the south side of the building, then head east around the barn and north and west to where the horses are waiting for the trail ride. There are no places for the visitor to sit and wait for the trail ride and if a delivery is taking place, visitors must navigate around the service area of the barn where the hay is being off loaded. This is also the route to the comfort station located to the north and east end of the current barn. Deliveries outside business hours were investigated, however due to staff availability for unloading, carrier scheduling, and hauling distances the deliveries must occur within business hours (7am to 7pm).

Visitors to the Cub Lake and Fern Lake Trailheads as well as anglers and visitors to the Big Thompson River and associated fishing and hiking trails throughout the Moraine Park area are required to park within designated spaces along Moraine Park Road. There is limited parking along the Moraine Park Road and it is generally very congested. The Park Service has provided shuttles to this area to ease the parking and traffic congestion. No parking along the edge of Moraine Park Road is strictly enforced. If and when there is an elk or wildlife presence in Moraine Park, traffic congestion is worsened in both directions. This condition is only compounded when a delivery is required to replenish the hay supply at

the stables. The tractor-trailer rigs delivering hay have a substantial turning footprint that requires that they cross the "centerline" of Moraine Park Road to make the turn into the service area of the stables within the rear tires of the trailer tracking off the improved road surface. In addition upon leaving the facility these rigs are required to either reverse down the service drive onto Moraine Park Road, then continue to the turn around at the picnic and comfort station just west on Moraine Park Road. Ideally the rigs are able to maneuver within the stable area and drive out forward. This maneuvering requires a very capable driver as well as limited on-street parking in this area.

Cumulative Effects: Few improvements have been made to enhance the visitor experience and the safety of the work environment since the construction of the existing barn. With the proposed improvements, by the National Park Service, to the existing parking lot, the visitor experience would have a minor beneficial impact. If the current barn continues to operate under the current condition with the improvement to the parking lot the cumulative effects would be negligible and beneficial.

Conclusion: Because there would be no major adverse impact to geology, soils, vegetation, visual quality, socioeconomic impacts, or visitor use and experience whose conservation is (1) necessary to fulfill specific purposes identified in the enabling legislation or proclamation of RMNP; (2) key to the natural or cultural integrity of the park; or (3) identified as a goal in the Master Plan (1976) or other relevant NPS planning documents, there will be no impairment of the Park's resources or values if Alternative 1 is selected.

ALTERNATIVE 2 – EAST SIDE FULL SIZE HAY BARN (PROPOSAL)

GEOLOGY, SOILS, AND VEGETATION

This alternative proposes that the new hay storage facility be located within an area that has been disturbed as recently as the 1960s after the removal and restoration efforts associated with the Brinwood Ranch-Hotel. In addition, this area is currently being utilized as a service area to park livery vehicles, such as pick-up trucks and horse trailers, as well as the location a large roll-off type trash container. The material make-up of the soil is primarily glacial till. The native vegetation is primarily dry native grasses with no ponderosa pine within the area of impact. The site is not considered pristine habitat. The soil that would be removed with the excavation and construction of the new hay barn would be distributed within the current horse corrals. The area of impact would be approximately 7,000 square feet. Since this area was recently disturbed and is continually used for service the direct adverse impacts would be negligible and short-term for the construction area adjacent to the new facility and the new facility itself.

Cumulative Effects: The National Park Service has purchased and removed ranches and resorts within the Moraine Park area and has made efforts to restore these areas to their original native conditions. In several areas the NPS has encouraged development for the enjoyment of the park such as the Moraine Park Campground and Moraine Park Stables. The NPS is investigating improvements to the existing Moraine Park Stables parking area to add parking spaces to this area of the park. These spaces will be used exclusively by visitors of the stables during the operating season. The improvements to the parking lot will have an impact on soils and native vegetation in the area of the existing parking lot. The disturbance associated with these improvements would be negligible and the mitigating measures associated with the impacts would be restorative. In addition these impacts would not result in significant cumulative impacts on vegetation and soils.

VISUAL QUALITY

This alternative will result in negligible to minor adverse effects to the visual resources associated with Rocky Mountain National Park, specifically the Moraine Park area, because of the addition of a noticeable feature on the landscape; however, the location of the proposed building is within a developed

area of the park, that would receive screening from the existing Ponderosa Pine to the south, and would be associated with the existing buildings at the livery. In addition the proposed building must meet the design standards established for Rocky Mountain National Park by the National Park Service and will be of a similar character as the existing buildings. Furthermore the building is intended to be integrated into the existing landform and the native vegetation would be restored to minimize its visual impact.

Cumulative Effects: The Moraine Park Stables have been developing since the 1970s when the existing barn was built. In the 1980s the concessionaire added the two dormitory facilities to the site and the National Park Service added the existing comfort station. In addition to these structures there are open style fences for the corrals, a fuel tank, a wooden livestock ramp, and a roll-off style trash container in the area. Surface impacts to the area include Moraine Park Road (an unimproved road that traverses the north side of Moraine Park, a service drive for employee access to the stables, an unimproved parking lot for the stables. Nearby is the Cub Lake trailhead parking area and information kiosk, the Fern Lake parking area with picnic tables and comfort station, and to the north on the north side of the lateral moraine is the Moraine Park Campground. The addition of these buildings and improvements has had a moderate adverse impact to the broader landscape of the Moraine Park area. However, these improvements have far less adverse impact than the ranches, homesteads, and resorts, with their associated golf and tennis facilities, that have been removed from Moraine Park. The future improvements to the stable parking area should have a negligible impact to the landscape because the improvements will be on the ground plane. Cumulatively, the negligible to minor adverse effects of this alternative in comparison to the moderate adverse effects of the existing development in the area will still result in a cumulative, moderate, adverse impact to the visual resources of the area.

SOCIOECONOMIC IMPACTS

The addition of the hay storage building as proposed under this alternative might have a short-term beneficial indirect impact on the economic resources of the gateway community of Estes Park. It is possible that a local contractor would be hired to build the new facility, and it is also possible that building materials would be purchased locally. In the long-term, the beneficial effects will probably be insignificant to the community.

There will be a short-term, moderate, adverse, economic impact to the concessionaire for this alternative to construct the facility. However there will be a long-term, moderate, beneficial economic impact to the concessionaire because of the reduction in frequency of deliveries to the stables, and the opportunity to acquire hay in bulk. The quality and consistency of hay would also increase due to the ability to purchase hay from a single source and harvest the hay in the appropriate season and allow it to cure adequately, resulting in healthier horses. In addition, by constructing this new building, the concessionaire would have the opportunity to improve the existing barn.

Cumulative Effects: The concessionaire constructed the two dormitory facilities during the 1980s and has made minor improvements to the existing stable and corrals throughout their existence. The concessionaire may in the future wish to renovate the existing barn to increase efficiency and safety. The addition of the proposed hay storage barn would facilitate these improvements. The improvements of the past, present, and foreseeable future have had a minor adverse impact to the concessionaire that have been offset by the ability to conduct the trail riding concession within the Park's boundary. The proposed alternative will have a short-term, moderate, adverse, economic impact on the concessionaire attributed to the construction of the new building; while there will be a cumulative, long-term, moderate, beneficial, economic impact on the concessionaire. There will also be a short-term, negligible, beneficial, economic impact on the gateway community of Estes Park, but no foreseeable long-term economic impact.

VISITOR USE AND EXPERIENCE

The proposed alternative would have a minor to moderate, beneficial impact to visitor use and experience, by reducing the frequency of hay deliveries and essentially eliminating deliveries during the operating

season. The hay would be delivered at the end of the operating season (the end of September or beginning of October). This would reduce the disruption to Moraine Park Road, Moraine Park Stables' guests, and to Moraine Park area visitors. Short-term visitor use impacts incurred by construction of the facility would be offset by building during the off-season, specifically from mid-October through mid-May when Loop D of the Moraine Park Campground is closed. Visitor safety would be enhanced by avoiding potential conflicts with unloading operations and tractor-trailer maneuvering in the service area of the livery.

Cumulative Effects: Future renovation of the existing barn would enhance the safety of this facility for employees saddling and unsaddling horses, as well as for equipment storage, and veterinary services for the horses. This renovation would also enhance the visitor experience by improving the office and registration area as well as overall circulation in and around the existing barn. The National Park Service is proposing to improve the Moraine Park Stables' parking lot to add parking spaces, this would also have a minor beneficial impact to the visitor use of the stables by allowing additional vehicles close-in parking to this facility. All of these projects would benefit park visitor experiences and safety opportunities.

Conclusion: Because there would be no major adverse impact to geology, soils, vegetation, visual quality, socioeconomic impacts, or visitor use and experience whose conservation is (1) necessary to fulfill specific purposes identified in the enabling legislation or proclamation of RMNP; (2) key to the natural or cultural integrity of the park; or (3) identified as a goal in the Master Plan (1976) or other relevant NPS planning documents, there will be no impairment of the Park's resources or values if Alternative 2 is selected.

ALTERNATIVE 3 – EAST SIDE HALF SIZE HAY BARN

GEOLOGY, SOILS, AND VEGETATION

This alternative is the same as Alternative 2, with the exception that the new hay barn would be half the size of that in Alternative 2. This alternative also proposes that the new hay storage facility be located within an area that has been disturbed as recently as the 1960s after the removal and restoration efforts associated with the Brinwood Ranch-Hotel. In addition this area is currently being utilized as a service area to park livery vehicles, such as pick-up trucks and horse trailers, as well as the location a large roll-off type trash container. The material make-up of the soil is primarily glacial till. The native vegetation is primarily dry native grasses with no ponderosa pine within the area of impact. The site for is not considered pristine habitat. The soil that would be removed with the excavation and construction of the new hay barn would be distributed within the current horse corrals. The area of impact would be approximately 4,500 square feet. Since this area was recently disturbed and is continually used for service the direct adverse impacts would be negligible and short-term for the construction area adjacent to the new facility and the new facility itself.

Cumulative Effects: The National Park Service has purchased and removed ranches and resorts within the Moraine Park area and has made efforts to restore these areas to their original native conditions. In several areas the NPS has encouraged development for the enjoyment of the park such as the Moraine Park Campground and Moraine Park Stables. The NPS is investigating improvements to the existing Moraine Park Stables' parking area to add parking spaces to this area of the park. These spaces may be used exclusively by visitors of the stables during the operating season. The improvements to the parking lot will have an impact on soils and native vegetation in the area of the existing parking lot. The disturbance associated with these improvements would be negligible and the mitigating measures associated with the impacts would be restorative. In addition these impacts would not result in significant cumulative impacts on vegetation and soils. Note: the parking lot is not a part of this EA and will require a separate NEPA evaluation.

VISUAL QUALITY

Since this alternative is half the size of the proposed building in Alternative 2, it will result in minor adverse effects to the visual resources associated with Rocky Mountain National Park, specifically the Moraine Park area, because of the addition of a noticeable feature on the landscape; however, the location of the proposed building is within a developed area of the park and would be associated with the existing buildings at the livery. In addition the proposed building must meet the design standards established for Rocky Mountain National Park by the National Park Service and will be of a similar character as the existing buildings. Furthermore the building is intended to be integrated into the existing landform and the native vegetation would be restored to minimize its visual impact.

Cumulative Effects: The Moraine Park Stables have been developing since the 1970s when the existing barn was built. In the 1980s the concessionaire added the two dormitory facilities to the site and the National Park Service added the existing comfort station. In addition to these structures there are open style fences for the corrals, a fuel tank, a wooden livestock ramp, and a roll-off style trash container in the area. Surface impacts to the area include Moraine Park Road (an unimproved road that traverses the north side of Moraine Park), a service drive for employee access to the stables and an unimproved parking lot for the stables. Nearby are the Cub Lake trailhead parking area and information kiosk, the Fern Lake parking area with picnic tables and comfort station, and to the north on the north side of the lateral moraine is the Moraine Park Campground. The addition of these buildings and improvements has had a moderate adverse impact to broader landscape of the Moraine Park area. However, these improvements have far less adverse impact than the ranches, homesteads, and resorts, with their associated golf and tennis facilities, that have been removed from Moraine Park. The future improvements to the stable parking area should have a negligible impact to the landscape because the improvements will be on the ground plane. Cumulatively, the negligible adverse effects of this alternative in comparison to the moderate adverse effects of the existing development in the area will still result in a cumulative, moderate, adverse impact to the visual resources of the area.

SOCIOECONOMIC IMPACTS

The addition of the hay storage building as proposed under this alternative might have a short-term beneficial indirect impact on the economic resources of the gateway community of Estes Park. It is possible that a local contractor would be hired to build the new facility, and it is also possible that building materials would be purchased locally. In the long-term, the beneficial effects will probably be insignificant to the community.

There will be a short-term, moderate, adverse, economic impact to the concessionaire for this alternative to construct the facility. However there will be a long-term, minor, beneficial economic impact to the concessionaire because of the reduction in frequency of deliveries to the stables, and the opportunity to acquire hay in bulk. The quality and consistency of hay would also increase due to the ability to purchase hay from a single source and harvest the hay in the appropriate season and allow it to cure adequately, resulting in healthier horses. In contrast to Alternative 2, by constructing the half-size hay barn the current barn would still be used for hay storage. Therefore the concessionaire would *not* have the opportunity to improve the existing barn. This would adversely impact the concessionaire because of the continued safety risk to employees saddling and caring for horses in an inadequate space. If, however, the current barn weren't used for hay storage and was renovated, then the concessionaire would be required to restock the new barn and additional time during the operating season.

Cumulative Effects: The concessionaire constructed the two dormitory facilities during the 1980s and has made minor improvements to the existing stable and corrals throughout their existence. The concessionaire may in the future wish to renovate the existing barn to increase efficiency and safety. However, by only constructing a facility that accommodates half the storage necessary for the operating season, the concessionaire must either utilize the existing barn for storage or make an additional trip during the operating season. In the case of the former, improvements to the facility would be hindered by

the storage requirement. The improvements of the past, present, and foreseeable future have had a minor adverse impact to the concessionaire that have been offset by the ability to conduct the trail riding concession within the Park's boundary. The proposed alternative will have a short-term, moderate, adverse, economic impact on the concessionaire attributed to the construction of the new building; while there will be a cumulative, long-term, moderate, beneficial, economic impact on the concessionaire. There will also be a short-term, negligible, beneficial, economic impact on the gateway community of Estes Park, but no foreseeable long-term economic impact.

VISITOR USE AND EXPERIENCE

The proposed alternative would have a minor, beneficial impact to visitor use and experience, by reducing the frequency of hay deliveries to half per season (if the new facility is the sole hay storage) or essentially eliminating deliveries during the operating season (if the new facility is combined with the use of the existing barn). The hay would be delivered at the end of the operating season (the end of September or beginning of October). This would reduce the disruption to Moraine Park Road, Moraine Park Stables' guests, and to Moraine Park area visitors. Short-term visitor use impacts incurred by construction of the facility would be offset by building during the off-season, specifically from mid-October through mid-May when Loop D of the Moraine Park Campground is closed. Visitor safety would be enhanced by avoiding potential conflicts with unloading operations and tractor-trailer maneuvering in the service area of the livery.

Cumulative Effects: Future renovation of the existing barn would enhance the safety of this facility for employees saddling and unsaddling horses, as well as for equipment storage, and veterinary services for the horses. This renovation would also enhance the visitor experience by improving the office and registration area as well as overall circulation in and around the existing barn. These renovations may be limited depending on the storage arrangement utilized by the concessionaire; specifically if the barn is utilized to accommodate the remaining half-year supply of feed that the new facility lacks. The National Park Service is proposing to improve the Moraine Park Stables' parking lot to add parking spaces, this would also have a minor beneficial impact to the visitor use of the stables by allowing additional vehicles close-in parking to this facility. All of these projects would benefit park visitor experiences and safety opportunities.

Conclusion: Because there would be no major adverse impact to geology, soils, vegetation, visual quality, socioeconomic impacts, or visitor use and experience whose conservation is (1) necessary to fulfill specific purposes identified in the enabling legislation or proclamation of RMNP; (2) key to the natural or cultural integrity of the park; or (3) identified as a goal in the Master Plan (1976) or other relevant NPS planning documents, there will be no impairment of the Park's resources or values if Alternative 3 is selected.

ALTERNATIVE 4 – NORTH SIDE FULL SIZE HAY BARN

GEOLOGY, SOILS, AND VEGETATION

This alternative is located on the north side of the existing corrals. The area proposed for impact is where the current trail rides commence and return; specifically it would impact the main trail to and from the stables. The site is composed of glacial till with large boulder outcroppings and native grasses. This location has little impact on native vegetation. There is no impact to sensitive riparian habitat or soils subject to erosion. There is greater impact to the area adjacent to this proposed location to provide tractor-trailer access as well as the need to relocate the existing trail. The soil that would be removed with the excavation and construction of the new hay barn would be distributed within the current horse corrals. The area of impact would be approximately 9,400 square feet. These direct adverse impacts would be minor and short-term for the construction area adjacent to the new facility and the new facility itself. The trails would have a direct, long-term, minor, adverse impact to the area.

Cumulative Effects: The National Park Service has purchased and removed ranches and resorts within the Moraine Park area and has made efforts to restore these areas to their original native conditions. In several areas the NPS has encouraged development for the enjoyment of the park such as the Moraine Park Campground and Moraine Park Stables. The NPS is investigating improvements to the existing Moraine Park Stables' parking area to add parking spaces to this area of the park. These spaces may be used exclusively by visitors of the stables during the operating season. The improvements to the parking lot will have an impact on soils and native vegetation in the area of the existing parking lot. The disturbance associated with all these improvements would be negligible and the mitigating measures associated with the impacts would be restorative. In addition these impacts would not result in significant cumulative impacts on vegetation and soils. Note: the parking lot requires additional NEPA analysis and is not a part of this EA.

VISUAL QUALITY

This alternative would result in moderate, adverse impacts to the visual resources, because it would be a noticeable feature on the landscape, it would be higher, in elevation, than the existing corrals, and it would be exposed to view from Moraine Park Road and Moraine Park Stables' parking area and from the South lateral moraine and possibly the Cub Lake trail.. However, since the location of this alternative is proximate to the existing dormitory structures, it would be associated with the existing buildings at the livery. In addition the proposed building must meet the design standards established for Rocky Mountain National Park by the National Park Service and will be of a similar character as the existing buildings. Furthermore the building is intended to be integrated into the existing landform and the native vegetation would be restored to minimize its visual impact.

Cumulative Effects: The Moraine Park Stables have been developing since the 1970s when the existing barn was built. In the 1980s the concessionaire added the two dormitory facilities to the site and the National Park Service added the existing comfort station. In addition to these structures there are open style fences for the corrals, a fuel tank, a wooden livestock ramp, and a roll-off style trash container in the area. Surface impacts to the area include Moraine Park Road, an unimproved road that traverses the north side of Moraine Park, a service drive for employee access to the stables, and an unimproved parking lot for the stables. Nearby the Cub Lake trailhead parking area and information kiosk, the Fern Lake parking area with picnic tables and comfort station, and to the north on the north side of the lateral moraine is the Moraine Park Campground. The addition of these buildings and improvements has had a moderate adverse impact to broader landscape of the Moraine Park area. However, these improvements have far less adverse impact than the ranches, homesteads, and resorts, with their associated golf and tennis facilities, that have been removed from Moraine Park. The future improvements to the stable parking area should have a negligible impact to the landscape because the improvements will be on the ground plane. Cumulatively, the moderate adverse effects of this alternative in comparison to the moderate adverse effects of the existing development in the area will still result in a cumulative, moderate, adverse impact to the visual resources of the area.

SOCIOECONOMIC IMPACTS

The addition of the hay storage building as proposed under this alternative might have a short-term beneficial indirect impact on the economic resources of the gateway community of Estes Park. It is possible that a local contractor would be hired to build the new facility, and it is also possible that building materials would be purchased locally. In the long-term, the beneficial effects will probably be insignificant to the community.

There will be a short-term, moderate, adverse, economic impact to the concessionaire for this alternative to construct the facility and associated access drive. However there will be a long-term, minor, beneficial economic impact to the concessionaire because of the reduction in frequency of deliveries to the stables, and the opportunity to acquire hay in bulk. The quality and consistency of hay would also increase due to the ability to purchase hay from a single source and harvest the hay in the appropriate season and allow it

to cure adequately, resulting in healthier horses. In addition by constructing this new building, the concessionaire would have the opportunity to improve the existing barn.

Cumulative Effects: The concessionaire constructed the two dormitory facilities during the 1980s and has made minor improvements to the existing stable and corrals throughout their existence. The concessionaire may in the future wish to renovate the existing barn to increase efficiency and safety. The addition of the proposed hay storage barn would facilitate these improvements. The improvements of the past, present, and foreseeable future have had a minor adverse impact to the concessionaire that have been offset by the ability to conduct the trail riding concession within the Park's boundary. The proposed alternative will have a short-term, moderate, adverse, economic impact on the concessionaire attributed to the construction of the new building, access drive, and relocation of the current trail; while there will be a cumulative, long-term, moderate, beneficial, economic impact on the concessionaire. There will also be a short-term, negligible, beneficial, economic impact on the gateway community of Estes Park, but no foreseeable long-term economic impact.

VISITOR USE AND EXPERIENCE

This alternative is the same as Alternative 2 by having a minor to moderate, beneficial impact to visitor use and experience, by reducing the frequency of hay deliveries and essentially eliminating deliveries during the operating season. This would reduce the disruption to Moraine Park Road, Moraine Park Stables' guests, and to Moraine Park area visitors. Short-term visitor use impacts incurred by construction of the facility would be offset by building during the off-season. Visitor safety would be enhanced by avoiding potential conflicts with unloading operations and tractor-trailer maneuvering in the service area of the livery.

Cumulative Effects: Future renovation of the existing barn would enhance the safety of this facility for employees saddling and unsaddling horses, as well as for equipment storage, and veterinary services for the horses. This renovation would also enhance the visitor experience by improving the office and registration area as well as overall circulation in and around the existing barn. The National Park Service is proposing to improve the Moraine Park Stables' parking lot to add parking spaces, this would also have a minor beneficial impact to the visitor use of the stables by allowing additional vehicles close-in parking to this facility. All of these projects would benefit park visitor experiences and safety opportunities.

Conclusion: Because there would be no major adverse impact to geology, soils, vegetation, visual quality, socioeconomic impacts, or visitor use and experience whose conservation is (1) necessary to fulfill specific purposes identified in the enabling legislation or proclamation of RMNP; (2) key to the natural or cultural integrity of the park; or (3) identified as a goal in the Master Plan (1976) or other relevant NPS planning documents, there will be no impairment of the Park's resources or values if Alternative 4 is selected.

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APPENDIX A:

Endangered Species Act (ESA)
Threatened and Endangered Unit Species List
for
Rocky Mountain National Park
December 18, 2003

The following table contains a list of species that are specific to Rocky Mountain National Park and are federally listed as endangered, threatened or candidates for listing by the U.S. Fish and Wildlife Service under the provisions of the Endangered Species Act. The U.S. Fish and Wildlife Service has reviewed the list and provided a letter of concurrence dated January 15, 2004.

The species that are included in the table must meet one of the following criteria:
1. The species is known to occur within the park
2. The species does not occur within the park, but suitable habitat is available
3. The species does not occur within the park, but actions within the park have the potential to affect the species.

In compliance with the Endangered Species Act, all management actions within the park are evaluated to determine if they will have any effect on the endangered, threatened or candidate species on this list.

Federally Listed and Candidate Species & Their Status in Colorado	Known to Occur in RMNP	Known to Occur in Boulder County	Known to Occur in Larimer County	Known to Occur in Grand County
Bald Eagle, *Haliaeetus leucocephalus*, Threatened	Yes	Yes	Yes	Yes
Bonytail, *Gila elegans*, (presumed-historical) Endangered	No	No	No	*
Boreal toad, *Bufo boreas boreas*, Candidate for Listing	Yes	Yes	Yes	No
Canada lynx, *Lynx canadensis*, Threatened	Yes (Currently extirpated)	Yes (Currently extirpated)	Yes (Currently extirpated)	Yes (Currently extirpated)
Colorado butterfly plant, *Gaura neomexicana* spp. *Coloradensis*, Threatened	No	Yes	Yes	No
Colorado pikeminnow, *Ptychocheilus lucius*, Endangered	No	No	No	*

Federally Listed and Candidate Species & Their Status in Colorado	Known to Occur in RMNP	Known to Occur in Boulder County	Known to Occur in Larimer County	Known to Occur in Grand County
Greenback cutthroat trout, *Oncorhynchus clarki stomias*, Threatened	Yes	Yes	Yes	No
Humpback chub, *Gila cypha*, Endangered	No	No	No	*
Least tern, *Sterna antillarum*, Endangered	No	▲	▲	No
Mexican spotted owl, *Strix occidentalis lucida*, Listed Threatened	No	Yes	Yes	No
Pallid sturgeon, *Scaphirhunchus albus*, Threatened	No	▲	▲	No
Piping plover, *Charadrius melodus*, Threatened	No	▲	▲	No
Preble's meadow jumping mouse, *Zapus hudsonius preblei*, Threatened	No	Yes	Yes	No
Razorback sucker, *Xyrauchen texanus*, Endangered	No	No	No	*
Utes ladies'-tresses, *Spiranthes diluvialis*, Threatened	No	Yes	Yes	No
Whooping crane, *Grus americana*, Endangered	No	▲	▲	No
Yellow-billed cuckoo, *Coccyzus americanus*, Candidate for Listing	Yes historically	No	Yes	Yes

Table Terminology

*	Water depletions in the Upper Colorado River basin may affect these species
▲	Water depletions in the South Platte River basin may affect these species
Candidate	Means there is sufficient information indicating that formal listing under the ESA maybe appropriate
Endangered	Means the species could become extinct
Threatened	Means the species could become endangered

APPENDIX B:

State Endangered, Threatened, and Rare Species for Rocky Mountain National Park

Last Revised December 2004

Rocky Mountain National Park uses the following table to identify state endangered, threatened and rare species that must be protected if found within a proposed project site. Federally threatened, endangered and candidate species are maintained separately from state listed species.

Agencies have a variety of ways of tracking and measuring the biological imperilment of species. The Colorado Wildlife Commission determines if a given specie needs protection under state laws. Four primary categories are applicable to Rocky Mountain National Park:

State Status Codes

E **State Endangered** – Listed as endangered by the Colorado Division of Wildlife. Those species or subspecies of native wildlife whose prospects for survival or recruitment within Colorado are in jeopardy, as determined by the Commission. State endangered species have legal protection under Colorado Revised Statues 33-2-105 Article 2.

T **State Threatened** – Listed as threatened by the Colorado Division of Wildlife. Those species or subspecies of native wildlife which, as determined by the Commission, are not in immediate jeopardy of extinction but are vulnerable because they exist in such small numbers, are so extremely restricted in their range, or are experiencing such low recruitment or survival that they may become extinct. State threatened species have legal protection under Colorado Revised Statues 33-2-105 Article 2.

SC **State Special Concern** – Those species or subspecies of native wildlife that have been removed from the state threatened or endangered list within the last five years; are proposed for federal listing (or a federal listing "candidate species") and are not already state listed; have experienced, based on the best available data, a downward trend in numbers or distribution lasting at least five years that may lead to an endangered or threatened status; or are otherwise determined to be vulnerable in Colorado.

The Colorado Natural Heritage Program (CNHP), based in Fort Collins manages a large database and ranking system for Colorado species. The database can be accessed through the Internet at www.cnhp.colostate.edu. The CNHP ranking system has two primary components – a ranking for the global status of the specie (G), and a ranking for that part of the range found within the state (S). Numeric extensions are added to these on a scale of 1 (critically imperiled) to 5 (demonstrably secure). A reference that CNHP uses to identify global status of a species is an online encyclopedia of life maintained by NatureServe at http://www.natureserve.org/

Natural Heritage ranks should not be interpreted as legal designations. Although most species protected under state or federal endangered species laws are extremely rare, not all rare species receive legal protection. National Park Service policies and guidelines require the preservation and protection of all native species.

Partners in Flight (PIF) developed a North American Landbird Conservation Plan in 2004. This plan provides a continental synthesis of priorities, objectives and rankings that will guide landbird conservation actions at national and international scales. PIF rankings are identified in the column with CNHP global rank codes. Only those species that have a state rank by CNHP are identified. A list of all PIF landbird species of continental importance, watch listed species, and stewardship species that occur in the Park are maintained separately from federal and state listed species.

Global Rank Codes

G1 Critically imperiled globally because of rarity (5 or fewer occurrences in the world; or 1,000 or fewer individuals), or because of some factor of its biology makes it especially vulnerable to extinction.

G2 Imperiled globally because of rarity (6 to 20 occurrences, or 1,000 to 3,000 individuals), or because other factors demonstrably make it very vulnerable to extinction throughout its range.

G3 Vulnerable through its range or found locally in a restricted range (21 to 100 occurrences, or 3,000 to 10,000 individuals).

G4 Apparently secure globally, though it might be quite rare in parts of its range, especially at the periphery, usually more than 100 occurrences and 10,000 individuals.

G5 Demonstrably secure globally, although it may be quite rare in parts of its range, especially at the periphery.

G#T# Trinomial rank (T) is used for subspecies or varieties. These taxa are ranked on the same criteria as G1-G5.

GQ Indicates uncertainty about taxonomic status.

G#? Indicates uncertainty about an assigned global rank.

North American Landbird Conservation Plan (RMNP is within the Intermountain West Avifaunal Biome, Bird Conservation Region 16)

GW Partners in Flight Watch List Species, with at least 10% of their global population in the Intermountain West Avifaunal Biome. A watch listed species are those birds warranting attention due to concerns related to declining populations, and distinct threats to habitat.

GS Partners in Flight Stewardship Species with ≥ 75% of their global population in the Intermountain West Avifaunal Biome. A stewardship species are those birds that have small or restricted ranges.

State Rank Codes

S1 Critically imperiled state because of rarity (5 or fewer occurrences in the world; or 1,000 or fewer individuals), or because of some factor of its biology makes it especially vulnerable to extinction.

S2 Imperiled state because of rarity (6 to 20 occurrences, or 1,000 to 3,000 individuals), or because other factors demonstrably make it very vulnerable to extinction throughout its range.

S3 Vulnerable through its range within a state or found locally in a restricted range (21 to 100 occurrences, or 3,000 to 10,000 individuals).

S4 Apparently secure within the state, though it might be quite rare in parts of its range, especially at the periphery, usually more than 100 occurrences and 10,000 individuals.

S5 Demonstrably secure within the state, although it may be quite rare in parts of its range, especially at the periphery.

S#B Refers to the breeding season imperilment of species that are not permanent residents.

S#N Refers to the non-breeding season imperilment of species that are not permanent residents. Where no consistent location can be discerned for migrants or non-breeding populations, a rank of SZN is used.

SH Historically known, but usually not verified for an extended period of time and could be extirpated from the park or the state.

SNR Not yet ranked in the state due to lack of information.

SX Presumed extirpated from within the state.

S#? Indicates uncertainty about an assigned state rank.

The Rocky Mountain National Park list of state Endangered, Threatened, and Rare Species does not include State Ranks Codes S4 and S5 because these rankings indicate that the specie is apparently or demonstrably secure within the state. The RMNP list is updated annually. If a specie is listed as unconfirmed, it means it occurred historically and is presently not confirmed; or has never been confirmed in the park, but the park has the appropriate habitat is within the species elevation range, and it has been confirmed in the counties the park occupies.

Scientific Name	Common Name	Time of Occurrence in RMNP	State Status	CNHP, PIF Rank	
				Global	State
Amphibians					
Bufo boreas pop1	Boreal toad (Southern Rocky Mountain Population)	All year	E	G4T1Q	S1
Rana sylvatica	Wood Frog	All year		G5	S3
Birds					
Accipiter gentilis	Northern goshawk	All year		G5	S3B
Aegolius funereus	Boreal owl	All year		G5	S2
Amphispiza belli?	Sage sparrow	Summer or migrant		G5,GS	S3B
Bucephala islandica	Barrow's goldeneye	Winter or migrant	SC	G5	S2B
Buteo regalis	Ferruginous hawk	Migrant	SC	G4	S3B, S4N
Calcarius mccownii	Mccown's longspur	Migrant		G5, GW	S2B
Catharus fuscescens	Veery	Summer or migrant		G5	S3B
Catoptrophorus semipalnatus	Willet	Migrant		G5	S1B
Coccyzus americanus occidentalis (unconfirmed)	Western Yellow-billed cuckoo	Accidental, two recorded occurrences, 1947 & 1980		G5T3	SNA
Cypseloides niger	Black swift	Summer		G4, GW	S3B
Dendroica graciae	Grace's warbler	Accidental, one recorded occurrence, 1990		G5	S3B
Dolichonyx oryzivorus	Bobolink	Accidental, summer or migrant		G5	S3B
Egretta thula	Snowy Egret	Migrant or rare summer		G5	S2B
Falco peregrinus anatum	American peregrine falcon	Summer or migrant	SC	G4T3	S2B
Glaucidium gnoma	Northern pygmy owl	All year		G5	S3B
Grus canadensis tabida	Greater sandhill crane	Summer or migrant	SC	G5T4	S2B, S4N
Haliaeetus leucocephalus	Bald eagle	All year	T	G4	S1B, S3N
Leucosticte australis	Brown-capped rosy-finch	All year		G4, GW	S3B, S4N
Loxia leucoptera	White-winged crossbill	All year, Irregular visitor		G5	S1B
Numenius americanus	Long-billed curlew	Migrant	SC	G5	S2B
Pelecanus erythrorhynchos	American white pelican	Migrant	SC	G3	S1B
Plegadis chihi	White-faced ibis	Migrant		G5	S2B

Scientific Name	Common Name	Time of Occurrence in RMNP	State Status	CNHP, PIF Rank	
				Global	State
Seiurus aurocapillus	Ovenbird	Rare summer or rare migrant		G5	S2B
Sterna forsteri	Forster's tern	Migrant		G5	S2B
Strix occidentalis lucida (Unconfirmed)	Mexican spotted owl	All Year	T	G3T3, GW	S1B, SUN
Fish					
Oncorhynchus clarki pleuriticus	Colorado River cutthroat Trout	All year	SC	G4T3	S3
Oncorhynchus clarki stomias	Greenback cutthroat trout	All year	T	G4T2T3	S2
Mammals					
Canis lupis (unconfirmed)	Gray wolf			G4	SX
Lynx canadensis	Lynx	All year	E	G5	S1
Gulo gulo (unconfirmed)	Wolverine	All year	E	G4	S1
Plecotus townsendii pallescens	Townsend's big-eared bat	All Year		G4T4	S2
Sorex hoyi montanus	Pygmy shrew	All year		G5T2 T3	S2
Sorex nanus	Dwarf shrew	All year		G4	S2
Ursus arctos (unconfirmed)	Grizzly or Brown bear			G4	SX
Invertebrates (Insects)					
Hyles galli	Galium sphinx moth	Summer		G5	S3?
Paratrytone snowi	Snow's skipper	Summer		G5	S3
Pyrgus ruralis	Two-banded skipper	Summer		G4	S3
Mollusk					
Acroloxus coloradensis	Rocky mountain capshell	All year	SC	G1G2	S1
Lichens					
Brachythecium ferruginascens				G4	S1S3
Bryum alpinum				G4G5	S1S3
Mosses					
Andreaea heinemannii				G3G5	S1S3
Andreaea rupestris				G5	S1S3
Aulacomnium palustre var. imbricatum				G5TNR	S1S3
Campylopus schimperi				G3G4	S1S3
Grimmia teretinervis				G3G5	S1S3
Hylocmiastrum pyrenaicum				G4G5	S1S3
Hylocomium alaskanum				G5	S1S3
Leptopterigynandrum austro-alpinum				G5	S1S3
Mnium blyttii				G5	S1S3
Oreas martiana				G5?	S1S3
Plagiothecium cavifolium				G5	S1S3
Pleurozium schreberi	Feathermoss			G5	S1S3
Pohila tundrae				G2G3	S1S3

Scientific Name	Common Name	Time of Occurrence in RMNP	State Status	CNHP, PIF Rank	
				Global	State
Rhytidium rugosum	Golden Glade-moss			G5	S1S3
Roellia roellii				G5	S1S3
Sphagnum contortum	Sphagnum			G5	S1S3
Liverworts					
Gymnomitrion corallioides				G4G5	S1S3
Plants					
Aletes humilis (unconfirmed)	Larimer aletes			G2G3	S2S3
Aquilegia saximontana	Rocky Mountain columbine			G3	S3
Artemisia pattersonii	Patterson's wormwood			G3G4	S3
Asplenium septentrionale	Grass-fern			G4G5	S3S4
Botrychium echo	Reflected moonwort			G3	S3
Botrychium hesperium	Western moonwort			G3	S2
Botrychium lanceolatum var lanceolatum	Lance-leaved moonwort			G5T4	S3
Botrychium lunaria	Common Moonwort			G5	S3
Botrychium minganense	Mingan's moonwort			G4	S1
Carex diandra	Lesser panicled sedge			G5	S1
Carex leptalea	Bristle-stalk sedge			G5	S1
Carex limosa	Mud sedge			G5	S2
Carex oreocharis	A sedge			G3	S1
Carex stenoptila	River bank sedge			G2	S2?
Castilleja puberula	Downy Indian-paintbrush			G2G3	SNR
Chionophila jamesii	Rocky mountain snowlover			G4?	S3S4
Cypripedium fasciculatum	Purple's lady's-slipper			G4	S3
Cystopteris montana	Mountain bladder fern			G5	S1
Draba crassa	Thick-leaf whitlow-grass			G3	S3
Draba fladnizensis	Arctic Draba			G4	S2S3
Draba grayana	Gray's peak whitlow-grass			G2	S2
Draba porsildii	Porsild's Whitlow-grass			G3G4	S1
Draba streptobrachia	Colorado Divide whitlow-grass			G3	S3
Drymaria effusa var. depressa	Spreading drymaria			G4T4	SNR
Dryopteris expansa	Spreading wood fern			G5	S1
Erocallis triphylla	Dwarf Spring			G4?	S2

Scientific Name	Common Name	Time of Occurrence in RMNP	State Status	CNHP, PIF Rank	
				Global	State
	Beauty				
Hippochaete variegata	Variegated scouringrush			G5	S1
Isoetes tenella	Spiny-spored quillwort			G5?T5?	S2
Juncus tweedyi	Tweedy rush			G3Q	S1
Juncus vaseyi	Vasey bulrush			G5?	S1
Lewisia rediviva	Bitteroot			G5	S2
Liatris ligulistylis	Gay-feather			G5?	S1S2
Lilium philadelphicum	Wood lily			G5	S3S4
Listera borealis	Northern twayblade			G4	S2
Listera convallarioides	Broad-Leaved twayblade			G5	S2
Luzula subcapitata	Colorado wood-rush			G3?	S3?
Mimulus gemmiparus	Weber monkey flower			G1	S1
Minuartica stricta	Rock sandwort			G5	S1
Lysimachia thrysiflora	Tufted Loosetrife			G5	SH
Mentzelia sinuata	Wavy-leaf stickleaf			G3	S2
Nuttallia speciosa	Jeweled blazingstar			G3?	S3?
Papaver radicatum spp. Kluanense	Alpine poppy			G5T3 T4	S3S4
Parnassia kotzebuei	Kotzebue grass-of-parnassus			G4	S2
Penstemon harbourii	Harbour beardtongue			G3	S3S4
Polypodium hesperium	Western polypody			G5	S1S2
Potentilla rupincola	Rocky mountain cinquefoil			G5?T2	S2
Pyrola picta (unconfirmed)	Pictureleaf wintergreen			G4G5	S3S4
Salix serissima	Autumn willow			G4	S1
Silene kingii	King's campion			G2G4Q	S1
Sisyrinchium pallidum	Pale blue-eyed grass			G2G3	S2
Telesonix jamesii	James' telesonix			G2G3	S2?
Tonestus lyallii	Lyall haplopappus			G5	S1
Viola Selkirkii	Selkirk violet			G5?	S1

APPENDIX C:

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
Colorado Field Office
755 Parfet Street, Suite 361
Lakewood, Colorado 80215

IN REPLY REFER TO:
ES/CO: USFS/AR
Mail Stop 65412

JAN 15 2004

Mr. Larry Gamble
Chief, Branch of Planning & Compliance
Rocky Mountain National Park
Estes Park, Colorado 80517

Dear Mr. Gamble:

The U.S. Fish and Wildlife Service has received your December 18, 2003, correspondence requesting concurrence for your revised Threatened and Endangered Unit Species List (revised December 18, 2003). The purpose of the "unit species list" is to streamline the section 7 consultation required of Federal agencies under the Endangered Species Act. This list would eliminate the Rocky Mountain National Park agencies from having to request a threatened and endangered species list each time they require consultation with the Service.

The Service concurs with your reasoning and determination for not including black-footed ferret (*Mustela nigripes*), Osterhout milkvetch (*Astragalus osterhoutii),* Penland beardtongue (*Penstemon penlandii*), and black-tailed prairie dog (*Cynomys ludovicianus).* The Service also concurs that the following listed species may be affected by activities of the Rocky Mountain National Park and consultations will be needed. Although candidate species presently receive no protection under the Act, it is within the spirit of the Act to consider project impacts to potentially sensitive species. Please be aware that threatened and endangered species lists should be updated every 90 days by telephone or in writing. If the update requires a change in the list below, the change will be documented in writing. The following species are of potential concern for your projects.

Unit Species List for the Rocky Mountain National Park

Bald eagle	*Haliaeetus leucocephalus*
Bonytail	*Gila elegans*
Boreal toad	*Bufo boreas boreas*
Canada lynx	*Lynx canadensis*
Colorado butterfly	*Gaura neomexicana spp. Coloradensis*
Colorado pikeminnow	*Ptychocheilus lucius*
Greenback cutthroat	*Oncorhynchus clarki stomias*
Humpback chub	*Gila cypha*
Least Tern	*Sterna antillarum*
Mexican spotted owl	*Strix occidentalis lucida*

Pallid sturgeon	*Scaphirhunchus albus*
Piping plover	*Charadrius melodus*
Preble's meadow jumping mouse	*Zapus hudsonius preblei*
Razorback sucker	*Xyrauchen texanus*
Ute ladies'-tresses	*Spiranthes diluvialis*
Whooping crane	*Grus americana*
Yellow-billed cuckoo	*Coccyzus americanus*

If the Service can be of further assistance, contact Andrea Jackson of my staff at (303)275-2349.

Sincerely,

Susan Linner
Colorado Field Supervisor

Reference: SpeciesList/ RMNP

APPENDIX D:

CLASS II AREA

Revised 07/02/04

Areas within this zone would be restored with a moderately conservative approach. A typical site would be Moraine Park where exotic plant species are abundant and development such as cabins, pipelines, golf course, had occurred in past years. Natural succession in these disturbed areas has been altered and some plant species that should occur in these habitats may be absent. A Class II area could be within a Class III area when the vegetation is of special value such as "native" vegetation between residence houses in the utility area. All road slopes within the park would also be treated as Class II.

Intent is to establish an ecosystem that is appropriate in that any species observed there would also be found in an undisturbed, environmentally similar community. It may not be possible to preserve the kinds of interactions one would find in the complete community. Individual species within this community may not necessarily be distributed in natural spatial patterns, genotypes will not necessarily be those that would have naturally immigrated to a particular point on the ground.

A Class II area may provide a buffer between Class I areas and Class III areas. Passive restoration (no planting) in some Class II areas may be used if determined the adjacent plant community is correct in the type of individuals present and sufficient to restore the disturbed site. Saving topsoil is crucial for any project, and if done correctly replacing the topsoil maybe all that is needed. It will probably not be possible to preserve the kinds of interactions one would find in an undisturbed, plant community and individuals will not necessarily be distributed in natural spatial patterns, but allowing natural succession to occur may have the same end result as intensive manipulation. If natural succession is used, it will be discussed, and standards set to monitor success in a approved site restoration plan.

Objectives

To restore the site to a plant community in which:

a) The species composition is a subset of an undisturbed plant community that would be found in a similar environment.

b) The genetic composition is a subset of adjacent plant communities.

Standards

The species composition is a subset when species on the disturbed site can also be found in an undisturbed community growing under similar environmental conditions.

The genetic composition is made up of local genotypes when genotypes introduced to the disturbed site came from nearby plant communities.

Vegetation within the disturbed site may be a combination of those species that have migrated onto the site naturally and those that have been introduced manually.

Policies

A considerable amount of work is permitted such as seeding native plants, on a Class II site, however, natural succession will be used when possible. Refer to the park's Best Management Practices for vegetation restoration.

Restore the natural gradient as close as possible.

Artificially stabilize the slopes if necessary by mechanical means, sterile wheat grass, retaining walls, etc.

Soil enhancement can be done by either breaking up and loosening the top horizon (e.g. scarifying, roto-tilling, etc.), or by introducing a soil medium rich in organic and nutrients such as compost or topsoil (refer to park's Best Management Practices for the use of topsoil).

No fertilizing will be done unless it is used in conjunction with sterile wheatgrass or transplanting trees and shrubs.

"Actively" monitor the site by significant documentation of the soil and vegetation condition or status.

It is appropriate to collect seed and or cuttings from the closest undisturbed plant communities when discussed and approved in a restoration plan. Propagation of local genotypes is appropriate, but for no more than six generations. When collecting seeds, cutting, or plants from a specific area, a minimum of 50 plants will be sampled to maintain genetic diversity. Collection of seeds and/or plants should not adversely impact the source area. Refer to park's Best Management Practices for vegetation restoration.

All succession will be restored at disturbed sites, to the greatest degree possible, appropriate for the vegetative community the site lies within. For example, restoring a disturbed site to only grasses in a forest community will not be appropriate unless those species of grasses occur in an earlier successional stage and will eventually phase out as the forest is replaced.